

## CLAIMS

1. A communications device for use in a communications network, the communications device comprising:

a plurality of interface ports, each of said interface ports receiving a first signal in a first format;

a processor coupled to said plurality of interface ports, said processor receiving said first signals, provisioning an overhead byte associated with one of said first signals to form a provisioned overhead byte and multiplexing said first signals to generate a multiplexed signal; and

a framer coupled to said processor, said framer receiving said multiplexed signal and said provisioned overhead byte and placing said multiplexed signal and provisioned overhead byte in a second format to provide a second signal for transmission on the communications network.

2. The communications device of claim 1 wherein said provisioned overhead byte is provisioned to include a destination address.

3. The communications device of claim 2 wherein said provisioned overhead byte is provisioned to include a transmission frequency.

4. The communications device of claim 3 wherein said provisioned overhead byte is provisioned to include a source address.

5. The communications device of claim 4 wherein said provisioned overhead byte is provisioned to include a common language location identifier.

6. The communications device of claim 1 wherein said processor provisions a plurality of overhead bytes, each provisioned overhead byte corresponding to one of said first signals.

7. The communications device of claim 1 wherein:

during reception said framer receives said second signal and extracts said multiplexed signal and said provisioned overhead byte from said second signal; and

during reception said processor receives said provisioned overhead byte and said multiplexed signal and compares said provisioned overhead byte to a path label associated with the communications device,

said processor demultiplexing said multiplexed signal to form said first signals and directing one of said first signals to said interface port if said provisioned overhead byte matches said path label.

8. The communications device of claim 1 wherein said first format is gigabit Ethernet.
9. The communications device of claim 8 wherein said second format is the SONET standard.
10. The communications device of claim 9 wherein said provisioned overhead byte is byte J1 in the SONET standard.
11. The communications device of claim 8 wherein said second format is the SDH standard.
12. The communications device of claim 11 wherein said provisioned overhead byte is byte J1 in the SDH standard.
13. A communications device for use in a communications network, the communications device comprising:

a framer for receiving a second signal in a second format from the communications network, said framer extracting a multiplexed signal and a provisioned overhead byte from said second signal;

a processor coupled to said framer, said processor receiving said provisioned overhead byte and said multiplexed signal and comparing said provisioned overhead byte to a path label associated with the communications device;

said processor demultiplexing said multiplexed signal to form a plurality of first signals in a first format if said provisioned overhead byte matches said path label; and,

an interface port coupled to said processor, said processor directing one of said first signals to said interface port if said provisioned overhead byte matches said path label.

14. The communications device of claim 13 wherein said provisioned overhead byte includes a destination address.

15. The communications device of claim 14 wherein said provisioned overhead byte includes a transmission frequency.

16. The communications device of claim 15 wherein said provisioned overhead byte includes a source address.

17. The communications device of claim 16 wherein said provisioned overhead byte includes a common language location identifier.

18. The communications device of claim 13 wherein said first format is gigabit Ethernet.

19. The communications device of claim 18 wherein said second format is the SONET standard.

20. The communications device of claim 19 wherein said provisioned overhead byte is byte J1 in the SONET standard.

21. The communications device of claim 18 wherein said second format is the SDH standard.

22. The communications device of claim 21 wherein said provisioned overhead byte is byte J1 in the SDH standard.

23. A method of transmitting information on a communications network, the method comprising:

receiving a plurality of first signals in a first format,

provisioning an overhead byte associated with one of said first signals to generate a provisioned overhead byte and multiplexing said first signals to generate a multiplexed signal, and

placing said multiplexed signal and said provisioned overhead byte in a second format to provide a second signal for transmission on the communications network.

24. The method of claim 23 wherein said provisioning includes specifying a destination address.

25. The method of claim 24 wherein said provisioning includes specifying a transmission frequency.

26. The method of claim 25 wherein said provisioning includes specifying a source address.

27. The method of claim 26 wherein said provisioning includes specifying a common language location identifier.

28. The method of claim 23 wherein said provisioning includes provisioning a plurality of overhead bytes, each provisioned overhead byte corresponding to one of said first signals.

29. The method of claim 23 wherein said first format is gigabit Ethernet.

30. The method of claim 29 wherein said second format is SONET.

31. The method of claim 30 wherein said provisioned overhead byte is byte J1 in the SONET standard.

32. The method of claim 29 wherein said second format is the SDH standard.

33. The method of claim 30 wherein said provisioned overhead byte is byte J1 in the SDH standard.

34. A method for receiving information from a communications network, the method comprising:

receiving a second signal from the communications network and extracting said multiplexed signal and provisioned overhead byte from said second signal;

comparing said provisioned overhead byte to a path label associated with a recipient,

demultiplexing said multiplexed signal to form first signals in a first format if said provisioned overhead byte matches said path label; and,

directing one of said first signals to said recipient.

35. The method of claim 34 wherein said provisioned overhead byte includes a destination address.

36. The method of claim 35 wherein said provisioned overhead byte includes a transmission frequency.

37. The method of claim 36 wherein said provisioned overhead byte includes a source address.

38. The method of claim 37 wherein said provisioned overhead byte includes a common language location identifier.

39. The method of claim 34 wherein said first format is gigabit Ethernet.

40. The method of claim 39 wherein said second format is SONET.

41. The method of claim 40 wherein said provisioned overhead byte is byte J1 in the SONET standard.

42. The method of claim 39 wherein said second format is the SDH standard.

43. The method of claim 42 wherein said provisioned overhead byte is byte J1 in the SDH standard.

44. A communications device for use in a communications network, the communications device comprising:

a plurality of interface ports, each of said interface ports receiving a first signal in a first format;

a processor coupled to said plurality of interface ports, said processor receiving said first signals, provisioning an overhead byte associated with one of said first signals to form a provisioned overhead byte and multiplexing said first signals to generate a multiplexed signal; and

a framer coupled to said processor, said framer receiving said multiplexed signal and said provisioned overhead byte and placing said multiplexed signal and provisioned overhead byte in a second format to provide a second signal for transmission on the communications network;

wherein said provisioned overhead byte is provisioned to include a destination address, said provisioned overhead byte being compared to a path label upon reception of one of said first signals.